GRADER

KLS-5N

Model 2014

Peatmax Oy. Vapontie 145, 61100 Peräseinäjoki | Puh. 050 509 3380 | sales@peatmax.com
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SAFETY INSTRUCTIONS

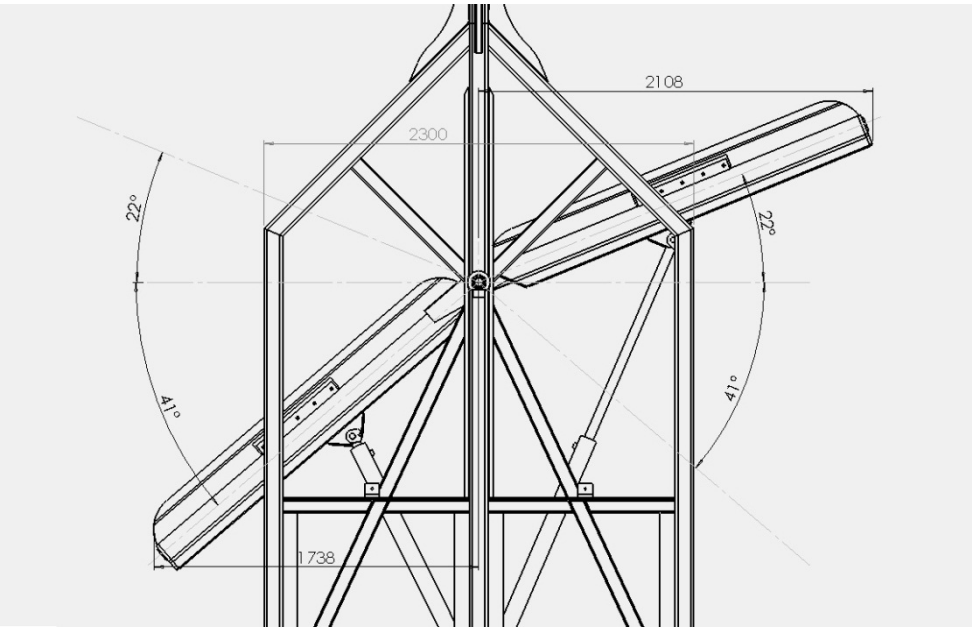
STUDY THESE INSTRUCTIONS AND THE MACHINE BEFORE USING IT

1. Only a person who has studied these instructions and has familiarised with the machine is allowed to operate and service it.
2. **Always** stop the machine before conducting any maintenance.
3. Lower the machine/appliance before making any service activities.
4. Don't tighten a hydraulic connection under pressure, **EXPLOSION HAZARD.**
5. Don't work under a machine/appliance resting solely on its hydraulics: Use a mechanical support.
6. Keep the machine free of peat dust and keep the doors of the cabin shut while driving, because of the **explosion hazard.**
7. Eliminate all possible causes for fire or dust explosions, such as abrasive friction.
8. Beware of **hot fluids**, such as hydraulic oil and radiator fluid.
9. Keep the tractor's cabin tidy, especially the floor space, where superfluous objects may cause danger by obstructing the controls.
10. Safety area is 10 m. Do not operate the machine if the safety area is not free.

Don't inhale oil vapour! If a pressurised oil hose or pipe breaks, the escaping oil will vaporise in the surrounding air. Leave at once and ventilate the area thoroughly.

1. TECHNICAL DATA

Towing engine	4-wheel drive agricultural tractor
Main dimensions	
- length	ca. 7 m
- width	ca. 5 m
- transport width	ca. 3,4 m
Weight	ca. 2800 kg



- 1 pcs. double action valve or connection to the series connection nipple on the valve block.

2. STARTING UP A NEW MACHINE

2.1 Operating the machine

Before use, make sure that the grader is properly attached and locked to the tractor. When connecting the grader to the tractor, be careful of crushing hazard. Turn the tractor's parking brake on and make sure of graders immobilization before connecting the hydraulic hoses and electrical connectors. Clean the hydraulic quick couplers before connecting them. Hydraulic hoses are color-coded: Connect the same color on the same pairs of hose hydraulic connections, and a single free return hose to the free return line. Connect the electrical connector to the tractor so that the signaling equipment and the grader wing selector engages. Parking lights must be turned on in order to make the grader wing selector work.

Before grading check the tightness of the nuts and bolts as well as visually inspect the pins and safety catches visually. Check that the hydraulic hose clamps are attached properly and that there are no leaks in the hydraulic system. Check the lights and warning devices are in proper condition. Run once through all the grader movements and detect that the movements are correct.
After operating the equipment, check that there are no leaks in the hydraulic system and that all the pins and the pin safety catches are properly in place. Check that all the nuts and bolts are tightly fastened. Conduct the daily lubrication (see section service and maintenance).

2.2 Operating the grader

KSL-5N is designed for grading peat production fields, agricultural fields, roads and other areas. It can also be used for grading snow and ice in the wintertime. Wing hydraulics are equipped with a safety valve in case of an incident of hitting an obstacle while grading.

3 Service and Maintenance

In order to maximise the reliability and operability a scheduled maintenance is required. After the first hour of operation, check the grader's structure, fixtures and possible leaks on the hydraulics system. While servicing the hydraulics, take extra attention to the dust free maintenance conditions. Before servicing the grader, study the safety instructions. Do not make any structural changes to the grader during the service and maintenance.

Daily maintenance

- Check the condition and fastening of the blades
- Check the movements of all functions
- Check the condition of all warning labels and signalling devices.

Weekly maintenance

- Lubricate all grease fittings
- Inspect all pins and safety catches
- Inspect all hydraulic lines and cylinders for possible leaks
- Wash and clean the grader

Monthly maintenance

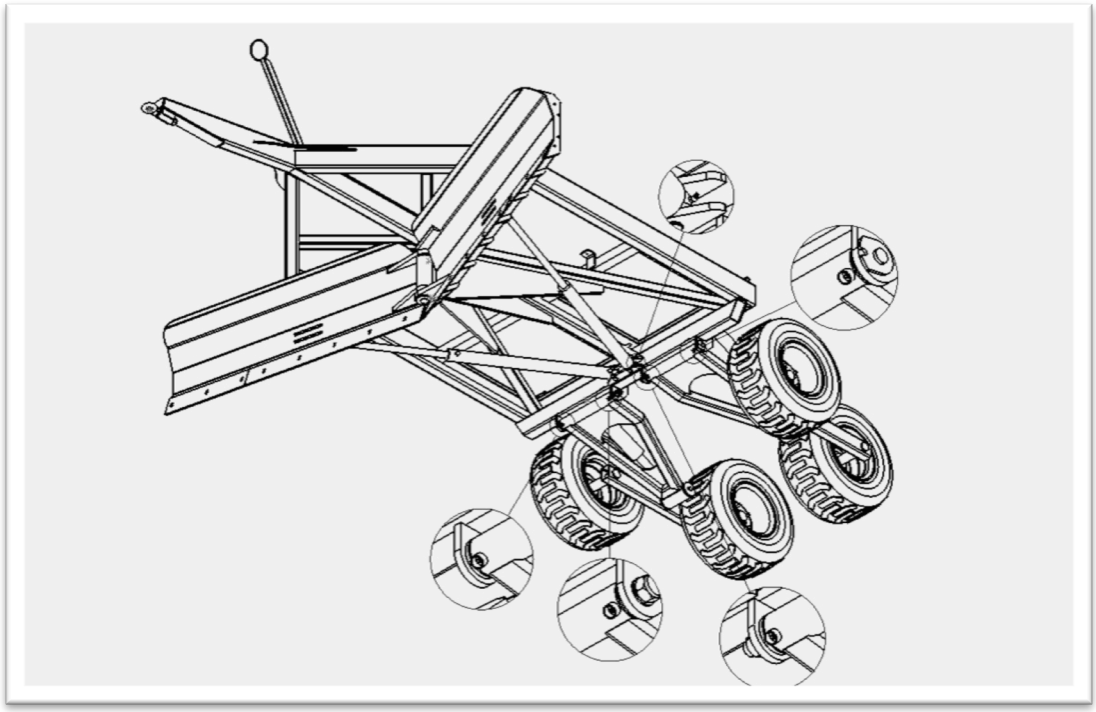
- Conduct a proper inspection of the grader
- Check and if needed fasten all the bolts and nuts
- Inspect all pins, joints and their brackets
- Replace the blades if wear is closing the the wing's support structure. Clamping force of the blade bolts is 195 Nm

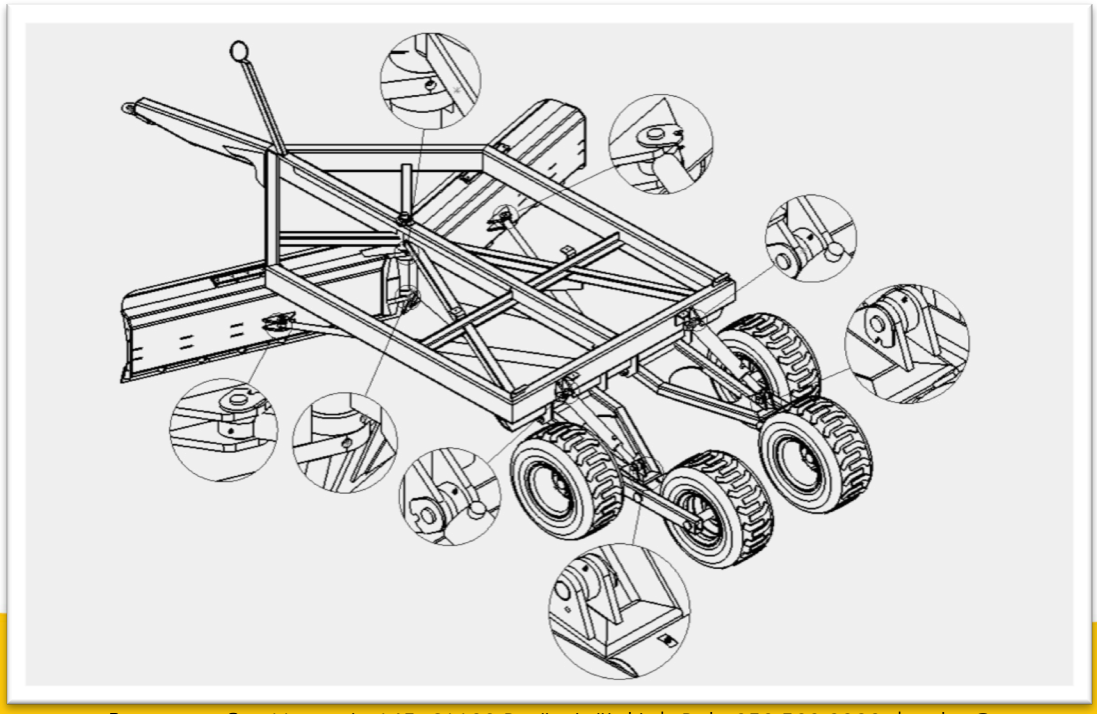
Storage of the grader

- Wash and clean the grader
- Lubricate all grease fittings
- Adjust wings to a rear position to protect the cylinder rods
- Detach the wing selector connector and store it in a dry place

Greasing of the fittings

- Before greasing, clean up the grease nipples
- Change damaged nipples to new ones
- Grease the following fittings weekly





Repairing instructions

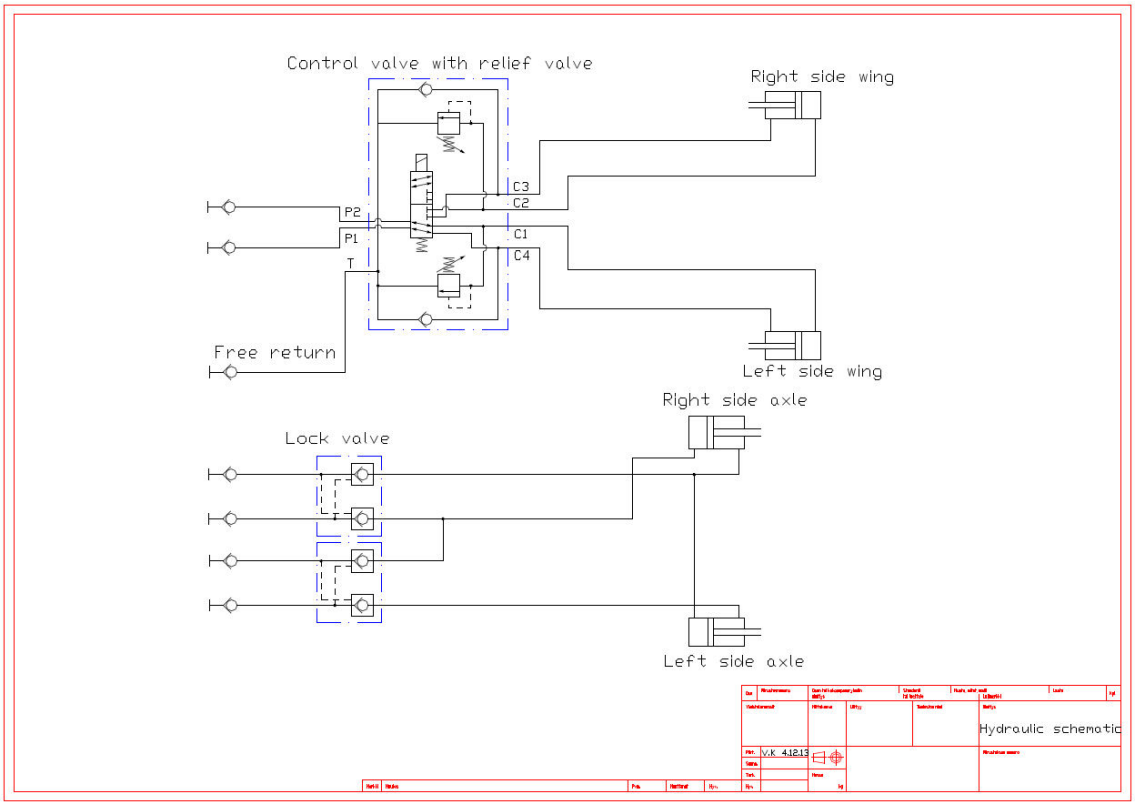
Welding
Grader is manufactured from weldable and machinable steel. Before repair welding, remove the paint from the heat-impacted area. When heating, the paint produces poisonous gases. During welding the burning paint also affect the weld quality.

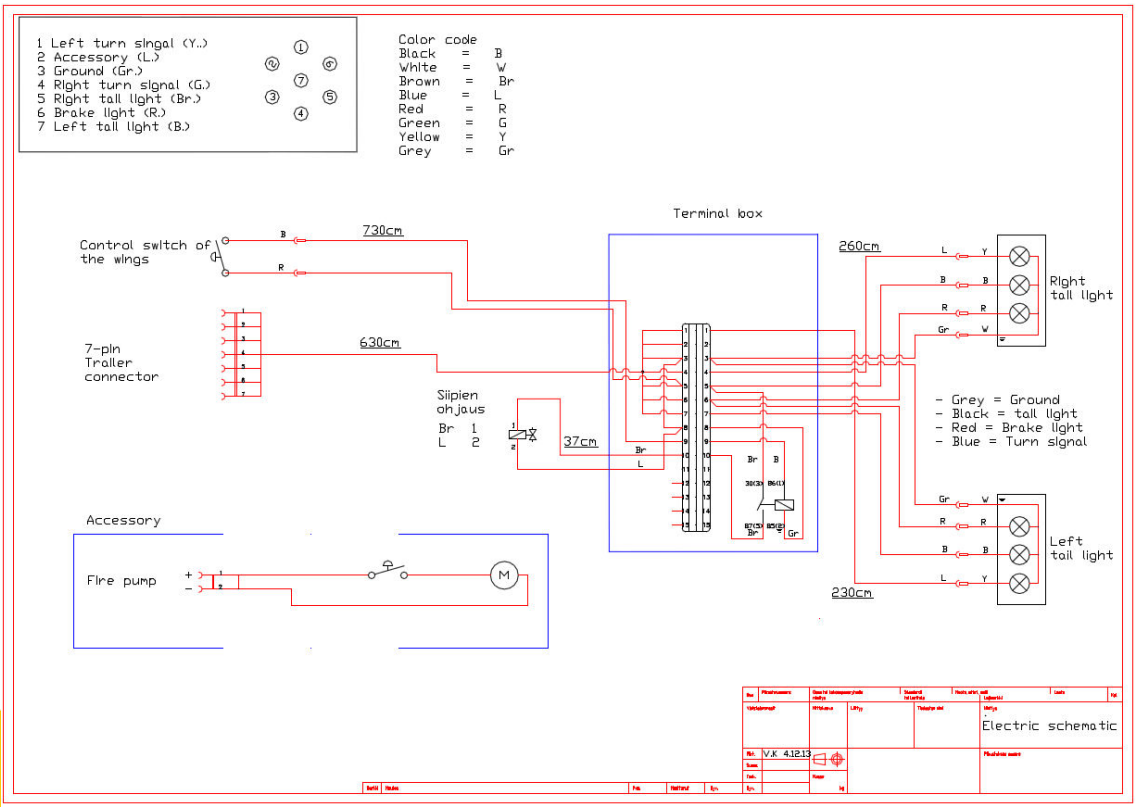
Decommissioning of the equipment
Hydraulic components can be re-used as spare parts or delivered to recycling. Especially the hoses and hydraulic oil must be delivered to appropriate recycling. Steel components can be delivered to steel recycling.

Hydraulics and electrical systems
This manual includes the diagrams for both electrical and hydraulics subsystems. Before any major overhaul, it's recommended to contact the manufacturer. Design has taken into account the spare part availability. Spare parts can be obtained from manufacturer or a well-equipped machine component re-seller.

Graders functions require three 2-action valve outputs from the tractor plus a one free return connector. Wings' hydraulics is equipped with safety valve for the occasion of hitting an object while driving forward. Selection of the adjusted wing is done with a switch installed is tractor's cockpit. When system is off-powered the left wing is adjusted.

Hydraulics and electrical diagram





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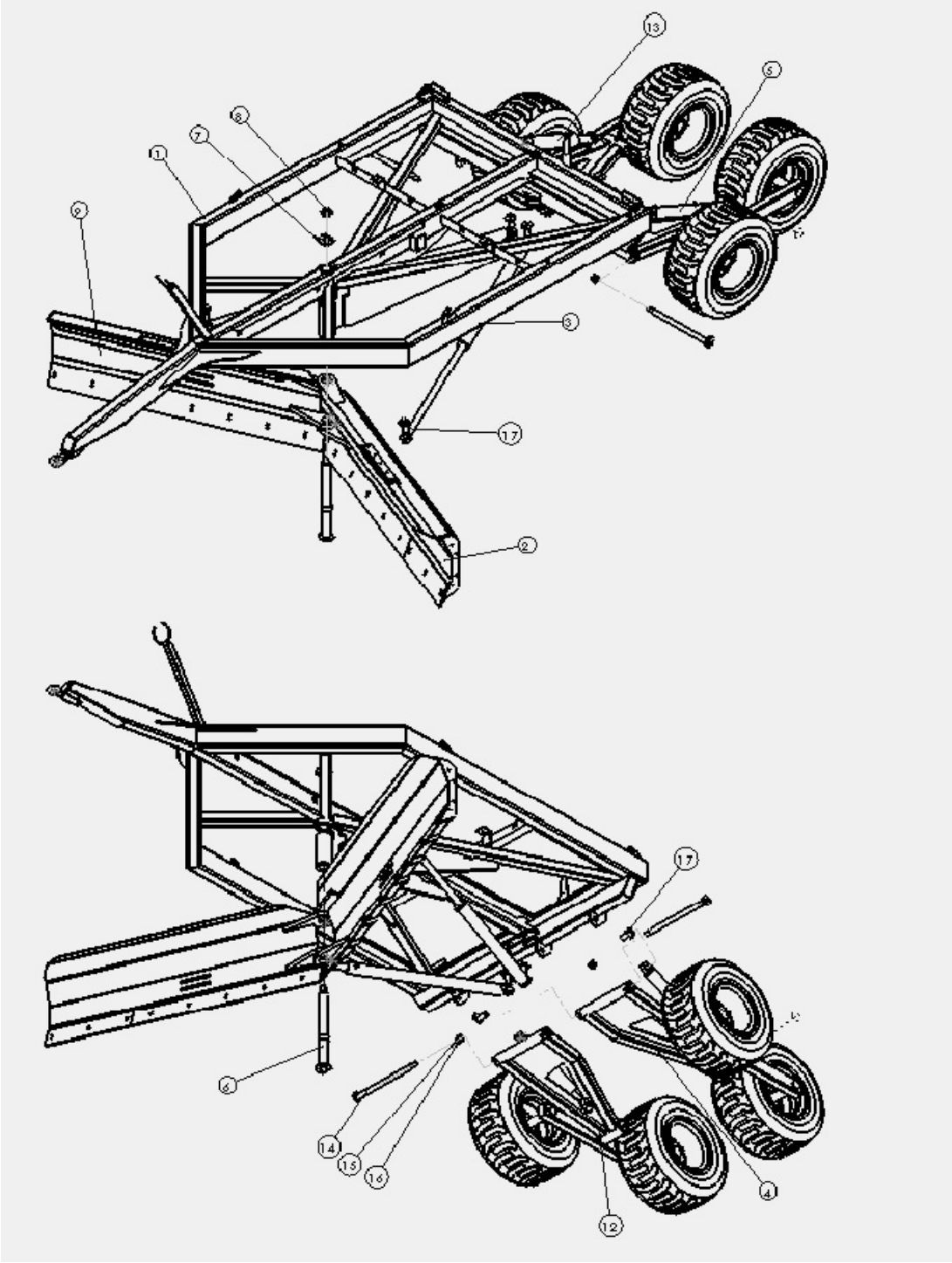
Operating and Service Manual

Spare parts catalog



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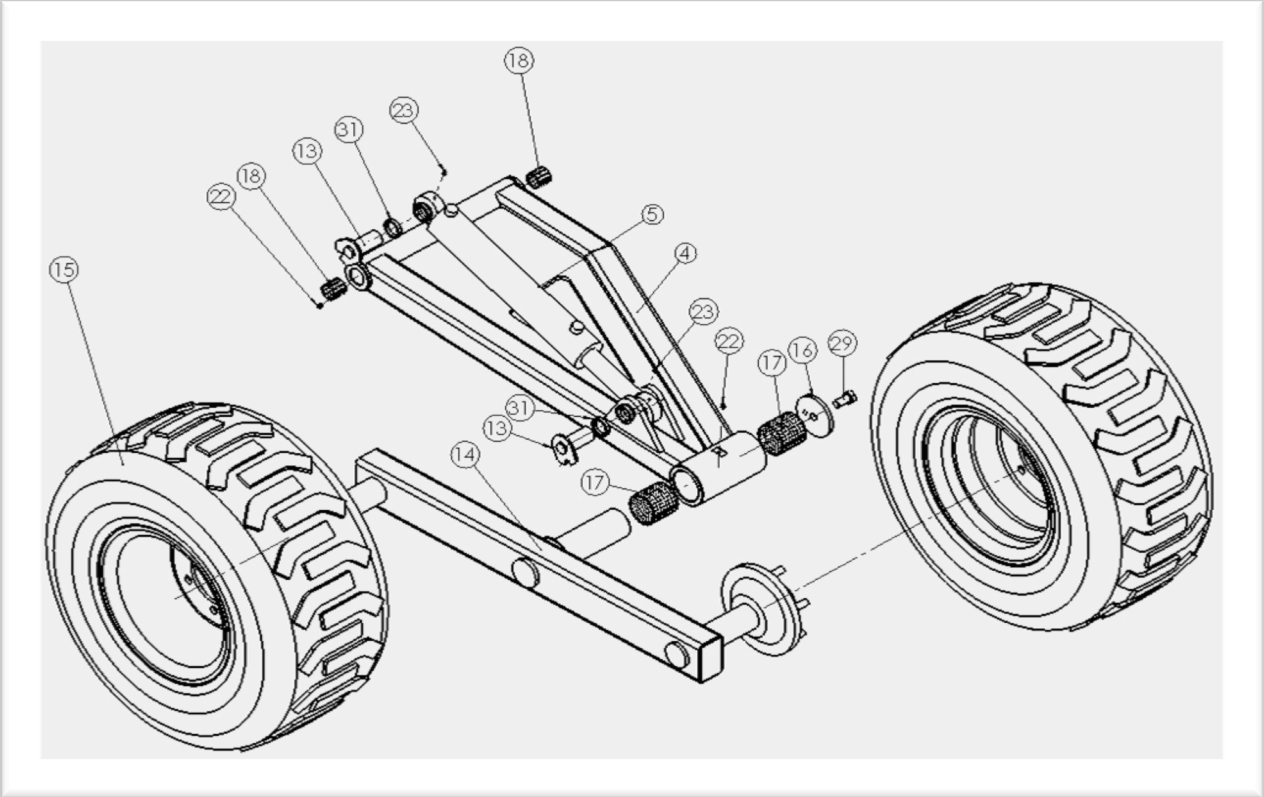
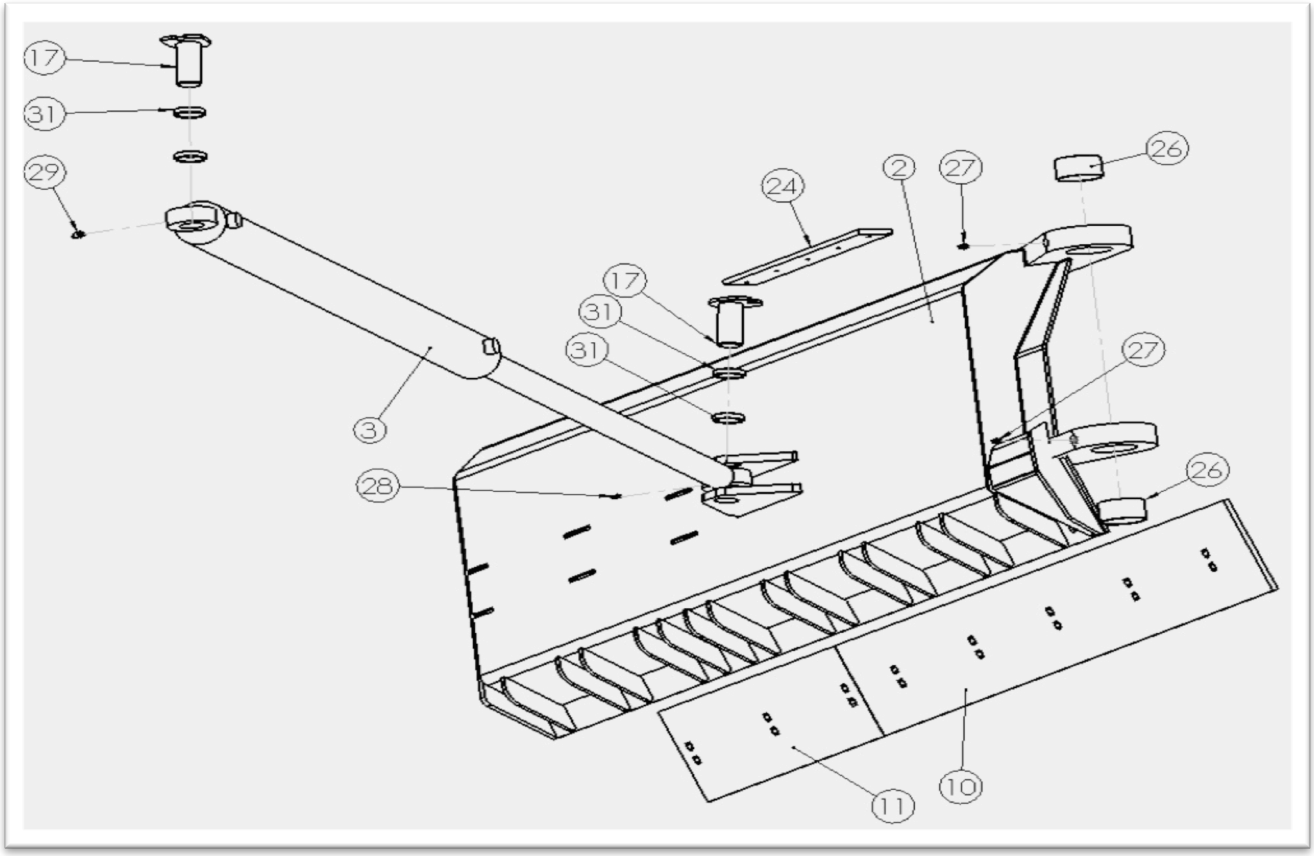
Parts list

Part	Number	Name	Pcs
1	MPH 0151	Grader's frame	1
2	MPH 0152	Wing, left	1
3	MPH 0051	Hydraulics cylinder	2
4	MPH 0750	Axle	1
5	MPH 0052	Hydraulics cylinder	1
6	MPH 0038	70 Pin	1
7	MPH 0037	Washer	1
8		Hex slotted nut	1
9	MPH 0153	Wing, right	1
12	MPH 0757	Axle	1
13	MPH 0053	Hydraulics cylinder	1
14	MPH 0048	40 Pin	2
15		Washer	2
16		Lock nut	2
17	MPH 0050	40 Pin	8



Axle parts list

Part	Number	Name	Pcs
4	MPH 0750	Axle	1
5	MPH 0052/0053	Hydraulics cylinder	1
13	MPH 0050	40 Pin	2
14	MPH 0754	Bogie-beam	1
15	400/60x15,5	Tyre	2
16	MPH 0756	Head plate	1
17	BMR10	Slide bearing	2
18	BMR10	Slide bearing	2
22	M8x1	Grease nipple	3
23	M6	Grease nipple	2
29	M20x40	Socket head cap screw	1
31	10062	Mounting sleeve	4



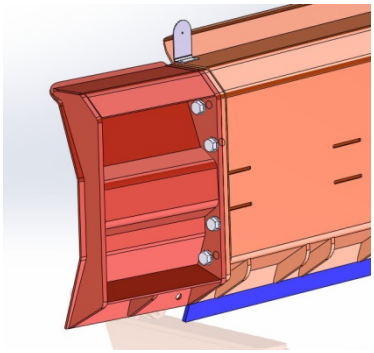
Wing's part list

Part	Number	Name	Pcs
2	MPH 0152	Wind, left	1
3	MPH 0051	Hydraulics cylinder	1
10	10011	Blade	1
11	10015	Blade	1
17	MPH 0050	40 Pin	2
24	MPH 0177	Slide plate	1
26	BMR10	Slide bearing	2
27	M8x1	Greese nipple	2
28	M6	Greese nipple	1
29	M6 45°	Greese nipple	1
31	10062	Mounting sleeve	4

4. OPTIONAL EQUIPMENT

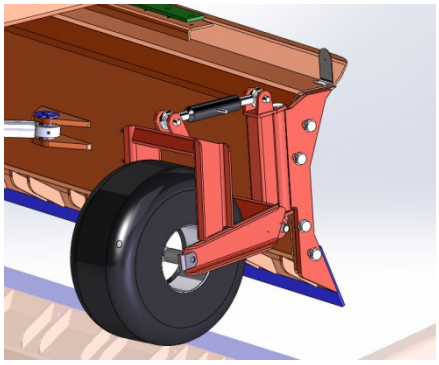
Extra wings

The Grader can be equipped with extra wings that extend the working width 40 cm on both sides. Extra wings are attached with M20 bolts on the main wings. Clamping force of the bolts is 395 Nm. Bolts tightness needs to be inspected after one hour of grading.



Support wheels

Additional support wheel enhances the grading result, especially in a case when wings are fully extended. Support wheels are mounted with M20 bolts that are tightened to 395 Nm clamping force.



The height position of the support wheels is adjusted with push-rod, installed on the upper corner of the support wheel frame. Wheels needs to be adjusted so, that wheels are not carrying the full weight of the wing.

Fire extinguishing equipment

Fire extinguishing system is primarily designed for peat production purposes. Tank is equiped with electrical pump. Electric connector is connected before use. Pump is operated with 12 V current and the switch is installed next to the pump.

After the season and for long term storage, tank and pump needs to be emptied of water.

5. TERMS OF WARRANTY

Peatmax Oy gives a twelve (12) months warranty on this machine.

As long as the warranty is valid, the manufacturer will replace any faulty or broken parts with new parts, if the failure is caused by a manufacturing error.

Installation, possible travel expenses and transport costs for the parts are not included in the warranty.

Any replaced parts are covered by a twelve (12) months warranty.

The warranty period starts on the day of delivery unless otherwise agreed.

The warranty is void if the machine has been misused or insufficiently serviced or if the structure of the machine has been altered without permission from the manufacturer, or if the machine has been sold to a third party.

Damage caused through normal wear or by foreign objects is not covered by the warranty.

Any losses in production or income due to damage during the warranty period are not covered by the warranty.

Procedures in case of damage during the warranty period:

- investigate the extent and causes of the damage

- contact the manufacturer/retailer

- send the damaged part(s) to the manufacturer, accompanied by a covering letter including a short description and explanation of the damage, the machine's serial number and the date of delivery

Assurance of compatibility with EU requirements

Manufacturing unit:

Peatmax Oy

Vapontie 145

61100 Peräseinäjoki

assures that Grader KSL-5N

Model 2014 launched on the market meets the requirements of the machine directive 2006/42/EC and its amendments.

Year of confirmation of the CE sign: 2014

In Seinäjoki, March 31, 2014

Juhani Lehti

Managing Director